REMARKS

Independent Claims 1, 14 and 25 have been amended to indicate the spontaneous crosslinking occurs "without a catalyst, radiation or other inducement." In other words, the definition of "spontaneous crosslinking" has been added to the claims. The amendment is supported at page 11, lines 18-21. The amended claims also recite that the desiccant component is mixed with and dispersed within the water-soluble absorbent polymer (see page 7, lines 18-19, page 3, lines 16-18).

a) Claim Rejection Based On Gander In View Of Harada

The rejection of Claims 1-10, 12-21 and 32-37 under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,853,867 ("Harada") in view of U.S. Patent 3,951,893 ("Gander") is respectfully traversed. Applicant's claims require an absorbent binder desiccant composition including a water-solubly absorbent polymer that spontaneously crosslinks (without a catalyst, radiation or other inducement) after application to a substrate. Claims 1 and 5 require spontaneous crosslinking at about 120°C or less. Claim 14 requires spontaneous crosslinking by hydrolysis of the alkoxysilane functionality and subsequent removal of the water.

Harada teaches directly away from these claim limitations. According to Harada, crosslinking of a cationic absorbent polymer is achieved:

> by adding a crosslinking agent to such a polymer either during or after polymerization and crosslinking the polymer . . . (Col. 5, lines 1-4).

A crosslinking agent (such as a catalyst or other inducing agent) cannot be both absent and present in a composition at the same time. Applicant's claims require the complete absence of a crosslinking inducing agent. Harada requires its presence. The present invention cannot be reconciled with the disclosure of Harada, and is not rendered obvious by this disclosure.

Moreover, as previously explained, Harada does not disclose a water-soluble absorbent polymer having an alkoxysilane functionality. The presence of such a polymer in water is important to achieving spontaneous crosslinking (i.e., crosslinking

without a catalyst, radiation or other inducement) at relatively low temperatures. Whether or not the cationic polymer of Harada crosslinks at low temperature is irrelevant if the crosslinking does not happen spontaneously, in the absence of a crosslinking agent. Harada does not render obvious Applicant's claimed invention, and is not pertinent to the invention.

The Examiner incorrectly states that an absorbent binder polymer crosslinked using a chemical catalyst has the same advantages as one made with spontaneous crosslinking (Office Action, pages 2-3). Applicant's claimed composition is intended for use in many applications contacting the human skin or food, or close to human skin or food. Chemical crosslinking agents are disadvantageous and often prohibited for human skin and food contact. There is a strong incentive to avoid chemical crosslinking agents as described in Harada.

Gander teaches directly away from the foregoing claim limitations. Gander teaches silane crosslinked polymers which are prepared and crosslinked using a silane crosslinking agent such as 3-(trimethoxylsilyl)-propyl methacrylate (Col. 5, lines 37-45). Both the polymerization reaction and the crosslinking are suitably induced by a catalyst (Col. 5, lines 53-62 and Col. 6, lines 12-20). All reaction steps including crosslinking proceed in the presence of an organic solvent, or during drying of the solvent (Col. 5, line 65 – Col. 6, line 19). No water is present as required by Applicant's claims. Accordingly, the crosslinking does not proceed by hydrolysis of the alkoxysilane functionality and subsequent removal of water as required by Applicant's claims.

The Examiner argues incorrectly that Applicant's crosslinking mechanism is a mere process, and refuses to consider it in evaluating patentability. To the contrary, the crosslinking mechanism arises from distinct product features of the invention, namely water and a water-soluble absorbent binder polymer. Gander excludes water from the polymer by using only an organic solvent (Col. 1, lines 42-47). Accordingly, the composition of Gander cannot crosslink in the same manner, and cannot perform the same functions as Applicant's absorbent binder composition.

According to Gander, the polymers formed are soluble only in strong acidic or basic solutions, suitably having pH's of about 12 or higher, or about 3 or lower (Col. 6,

lines 48-53). In other words, the polymers are not soluble in water (which typically has a pH of about 7). The disclosed polymers would therefore not be useful in Applicant's absorbent binder composition, even if they were combined with water.

Finally, neither reference discloses a desiccant composition mixed with and dispersed within a water-soluble absorbent binder polymer. Accordingly, the claim rejection based on Harada in view of Gander should be withdrawn.

b) Comments On Examiner's Response To Arguments

The Examiner argues incorrectly that it makes no difference whether the crosslinking is spontaneous or uses a chemical catalyst because both types of crosslinking may occur at less than 120°C. As explained above, it is highly desirable to avoid chemical crosslinking agents in skin contact and food contact applications. There is a major advantage to spontaneous crosslinking, which is not disclosed or rendered obvious by Harada or Gander.

The Examiner argues incorrectly that the distinguishing feature of dispersing a desiccant component within the water-soluble absorbent binder polymer prior to crosslinking is merely a process feature not associated with a product. To the contrary, this feature helps distinguish the absorbent binder desiccant composition. The absorbent binder desiccant composition can be prepared, mixed and applied to a substrate in a flowable (non-crosslinked) state before it is crosslinked and caused to assume a permanent shape. No prior art discloses an absorbent binder desiccant composition existing in a non-crosslinked state including a desiccant mixed with and dispersed within a water-soluble polymer. The term "water soluble" polymer means the polymer is not crosslinked. Thus, the phrase "prior to crosslinking" merely complements the product description of a desiccant dispersed in a water-soluble polymer.

The Examiner assumes that Harada and Gander are combinable, yet there is no proper basis for doing so. With respect to the invention, the water-soluble polymer having an alkoxysilane functionality enables the spontaneous crosslinking without a crosslinking agent. Harada does not disclose an alkoxysilane functionality, and uses a crosslinking agent instead. The applications disclosed in Harada do not involve skin-

contact or food-contact where chemical crosslinking agents would provide a disadvantage. Accordingly, Harada provides no motivation to eliminate chemical crosslinking agents or achieve spontaneous crosslinking by providing a water-soluble absorbent polymer with an alkoxysilane functionality.

c) Conclusion

Applicants believe that the claims, as presented, are in condition for allowance. If the Examiner detects any unresolved issues, then please telephone the undersigned for the previously requested telephone interview.

Respectfully submitted,

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